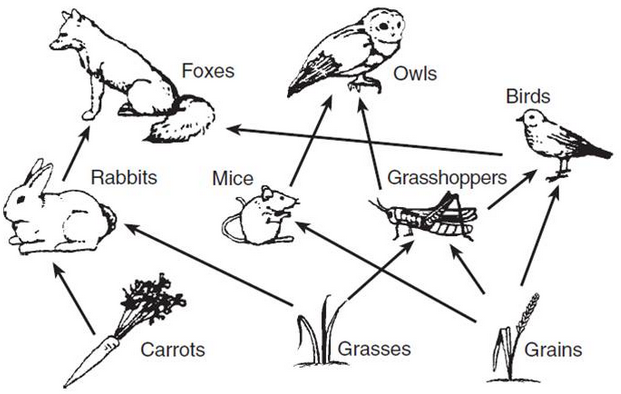
**Food Web and Energy Transfer Short Response Question**

AP Biology, Ms. OK, 2014-2015

The food web given below shows energy transfer relationships within a particular community.



A) Draw a graph to show how the populations of rabbits and grass would most likely be affected by a sudden increase in the fox population.

B) Explain why the rabbit and grass populations would change in the ways you outlined in your graph in Part A.

C) Let’s say there are 2100 kJ of energy stored in the grains within this community. How much of this energy can be transferred up to the secondary consumer level, and what is one secondary consumer on this food web that would receive energy from the grains?

**Ms. OK’s Tips for Graphing Free Response Questions**

Some free response questions will ask you to graph a data set and then analyze your graph. When constructing a line graph, follow the steps below:

* Label your axes with the independent variable on the x-axis and the dependent variable on the y-axis
* Mark off axes in equal increments and label with proper units
* Plot points and attempt to sketch in the curve (line)… (NOTE: YOU WILL NOT BE PLOTTING POINTS ON THIS GRAPH)
* If more than one line is plotted, label each one and include a key / legend
* Give the graph an appropriate title that includes both the independent and dependent variable

*Note: These tips are adapted from various sources.*

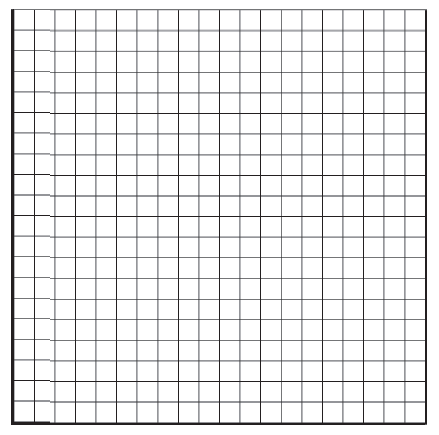
**Skills Assessed on this Short Response Question**

|  |  |  |  |
| --- | --- | --- | --- |
| **Category** | **You Got It!** | **You’re Almost There!** | **You Need to Make Some Changes!** |
| Make a prediction and justify it using known information. | Your prediction is logical and clearly supported by relevant known information. | Your prediction is logical but is not clearly supported by relevant known information. | Your prediction is not logical and is not clearly supported by relevant known information. |
| Create a graph from given data. | Your graph includes all elements of a properly designed graph: a descriptive title, axis labels (with units), proper axis scales, and a key (if multiple sets of data are used. | Your graph includes most elements of a properly designed graph: a descriptive title, axis labels (with units), proper axis scales, and a key (if multiple sets of data are used. | Your graph includes some or none of the elements of a properly designed graph: a descriptive title, axis labels (with units), proper axis scales, and a key (if multiple sets of data are used. |

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_

**Your Response**

A)



B)

C)